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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,763	12/28/2001	Alex Horng	HORN3083/EM	4313

7590 11/29/2004
Bacon & Thomas
625 Slaters Lane-4th Floor
Alexandria, VA 22314

EXAMINER

SMITH, JULIE KNECHT

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/028,763

Applicant(s)

HORNG ET AL.

Examiner

Julie K Smith

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NW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (4,712,031) in view of Shy (6,024,496).

Regarding claim 1, Anderson discloses a bearing comprising a shaft seat (71) having a bearing (38) provided therein, and a rotation shaft (13) rotatably mounted in the bearing, the improvement comprising a race (53) formed with a hole fitting tightly on the rotation shaft, located above the bearing (see fig. 3), for rotation with the shaft, and a circumferential edge of the race is almost in contact with the inner wall of the shaft seat. A washer (57) is mounted on the rotation shaft between a race and a bearing. Anderson does not disclose the race being made of an elastic material. However, Shy teaches an elastic race (94) for sealing a bearing.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the race of Anderson with the teachings of Shy to provide an elastic race, instead of an aluminum race, so that the race will be able to flex during rotation of the shaft, providing a more effective seal against leaks.

Regarding claim 2, Anderson discloses a bearing assembly, as claimed, but lacks an annular groove for connecting a snap member. However, Shy teaches a rotating shaft having an annular groove (17) for holding a snapping connection of a snap member (21).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the bearing of the reference combination set forth above with the teachings of Shy so as to secure the shaft within the bearing and prevent it from becoming detached.

3. Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson in view of Shy as applied to claims 1 and 2 above, and further in view of Lowe (3,359,048).

Regarding claims 4-8, the reference combination set forth above comprises a bearing, but the bearing lacks the specific shape, as claimed. However, Lowe teaches a bearing wherein the thickness of the mediate portion of the race is gradually tapered toward the circumferential edge of the race (see fig. 1) and mounted on an edge of the mediate portion of the race in an annular manner.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the bearing of the reference combination set forth above with the teachings of Lowe so as to provide a more effective seal against dust and oil.

Response to Arguments

4. Applicant's arguments, filed 9/17/04, with respect to the rejection(s) of claim(s) 1-8 under Anderson in view of Shy and Lowe have been fully considered and are not persuasive.

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Regarding claims 1 and 2, Applicant has amended the claims to state that a race is “almost or slightly” in contact with the shaft seat so as to “minimize” (not eliminate) clearance between the race and shaft seat. Anderson’s race reads on the claim in that it almost contacts the shaft seat so as to minimize clearance. Applicant’s arguments are directed toward features which are not found in the claims. Moreover, for the race to rotate relative to the shaft seat, there must be some clearance between the race and shaft seat. The Shy reference is used in a 103(a) rejection and does not need to contain all the limitations of the claim, only the limitations not taught by the primary reference. Shy teaches a race made of an elastic material. Shy does not need to disclose a race that rotates with a shaft since Anderson already discloses that limitation.

Regarding claims 4-8, the Lowe reference is again used in a 103(a) rejection and does not need to contain all the limitations of the claim, only the limitations not taught by the primary reference. The Lowe reference is used to teach the shape of a race, not the arrangement of the race within the bearing since Anderson already teaches the arrangement of the race relative to the shaft seat.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie K Smith whose telephone number is 703-305-3948. The examiner can normally be reached on Monday-Friday, 8-5:30, (Every other Friday off).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Bucci can be reached on 703-308-3668. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JKS

Jks

November 22, 2004


WILLIAM C. JOYCE
PRIMARY EXAMINER